

**DETERMINATION OF ELIGIBILITY**

**AND**

**FINDING OF EFFECT**

**for**

**Utah Department of Transportation  
Project No. BHF-0191(27)129E; Colorado River Bridge Replacement**

**Developed by the**

**UTAH DEPARTMENT OF TRANSPORTATION**

**For**

**UTAH DIVISION, FEDERAL HIGHWAY ADMINISTRATION**

**May 12, 2006**

**Submitted to the**

**UTAH STATE HISTORIC PRESERVATION OFFICE**

**Wilson Martin, State Historic Preservation Officer**

## **INTRODUCTION**

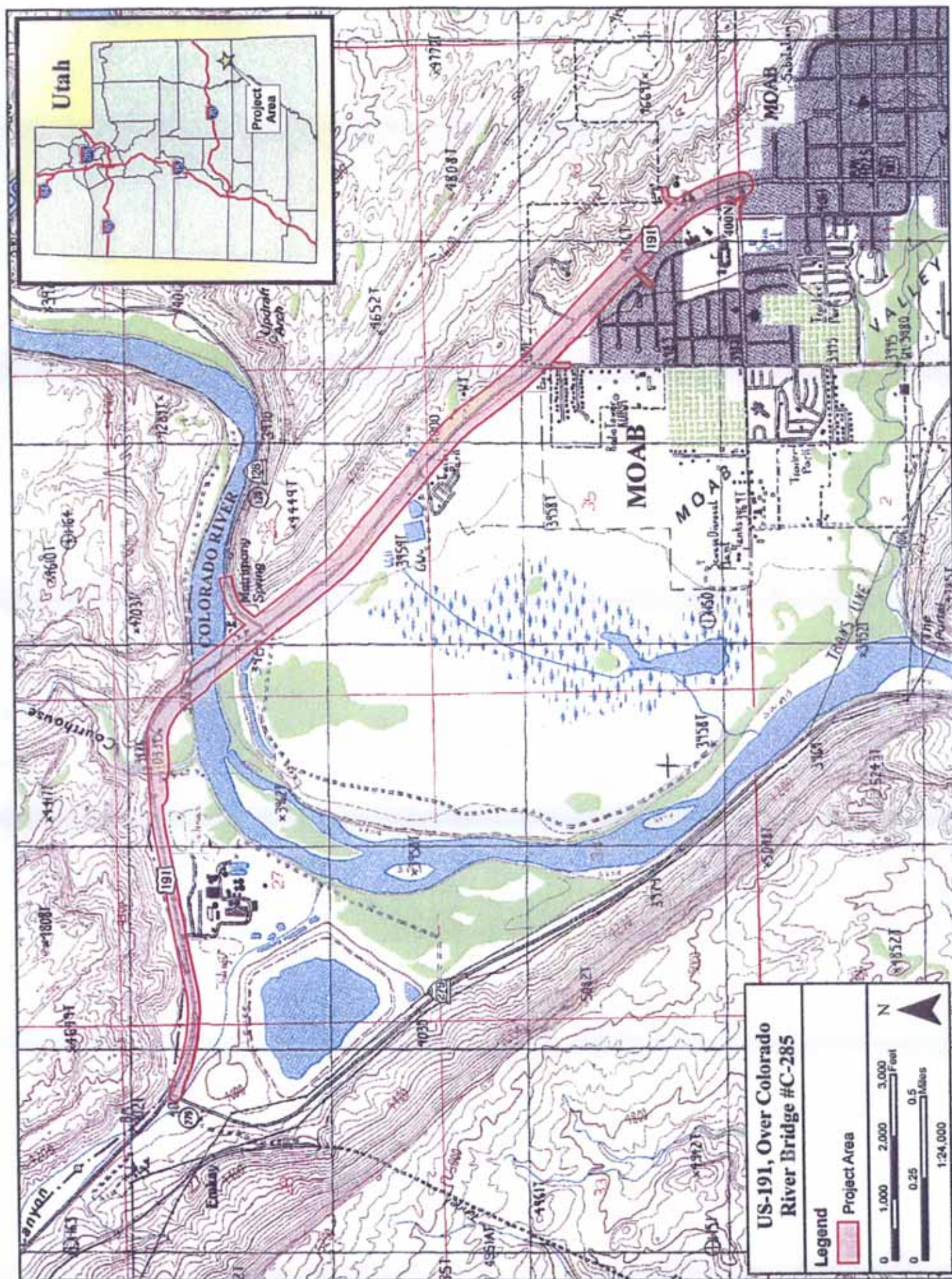
This document specifies the consideration given to historic properties in accordance with Section 106 of the National Historic Preservation Act of 1966 as amended and Utah State Code 9-8-404 of the Utah Antiquities Act as amended, for Project No. BHF-0191(27)129E; Colorado River Bridge Replacement. The project extends from milepost 126.2 at about 400 North, where the four-lane road ends in the northern portion of Moab, and continues north to the Potash Road (SR-279) intersection at about milepost 129.79 (Figure 1). The following Determination of Eligibility and Finding of Effect has been prepared to assist the Federal Highway Administration in consultation with potentially interested parties, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation. The FHWA is the lead agency for purposes of Section 106, and an Environmental Assessment is being prepared in accordance with the National Environmental Policy Act. The project involves lands under Utah Department of Transportation (UDOT), Department of Energy (DOE), Bureau of Land Management (BLM), the State Division of Wildlife Resources (DWR) management, and Moab City. Arches National Park (NPS) boundaries extend to the middle of US-191 in some locations and it would require an act of Congress to change the boundary. The project does not extend onto the park that has natural and cultural resources of value. All of these agencies are invited Consulting Parties in the Section 106 process.

## **THE PROJECT**

UDOT is evaluating the best alternative for addressing deficiencies of the existing Colorado River Bridge on US-191, and the roadway between MP 126.2 and 129.79. The purpose of the project includes: provide a safe bridge that accommodates traffic over the Colorado River, improve safety in the study area (including the Courthouse Wash bridge), meet the existing and projected travel demand, provide continuity between the four-lane sections on either end of the study area, and facilitate movement of bicycle/pedestrian traffic along US-191. The Colorado River Bridge is in poor condition and is eligible for federal funds to replace it. It is too narrow, cannot support modern three-axle vehicle loads, it has no shoulders, it has parapets that no longer meet crash safety criteria, the abutments and piers are being scoured by the river, the bridge foundations are cracked and have voids, and areas of soft concrete. In the current project area, US-191 is a 3.7-mile two-lane highway sandwiched between four-lane highway to the north and south. To increase capacity for existing and projected traffic, the roadway needs to be four lanes. The Courthouse Wash Bridge is a two-lane bridge and would need to be widened to four-lanes to provide continuity in the roadway cross section and increase capacity. Because of the recreational destinations in the Moab area, substantial bicycle and pedestrian traffic between town and destinations north of Potash Road are using the shoulder of US-191 on both sides of the highway. The Colorado River Bridge has no shoulder or sidewalk for use, and bikes and pedestrians are forced into the traffic lanes.

The alternatives being considered for addressing these needs include the No Build and the Build Alternative (preferred). Given that the Colorado River Bridge is classified as functionally obsolete, the No Build Alternative would consist of the continuous maintenance and rehabilitation projects that UDOT considers necessary to maintain the bridge, but eventually the bridge would have to be replaced, or the safety, continuity, and capacity needs would not be met.







The Build Alternative would construct a new Colorado River Bridge using a staged process that would provide four travel lanes, with median and shoulders. The Courthouse Wash Bridge and US-191 highway will be widened to four lanes with a median and shoulders, and new right of way will be required. Moab City has successfully acquired Transportation Enhancement funding to construct a pedestrian/bike path that will partially be on independent alignment, with some sections part of the US-191 roadway. Phase 1 construction will replace the Colorado River Bridge and its approaches. Between the bridge and the Courthouse Wash parking lot, a bike/ped path will be constructed as Phase I. The Courthouse Wash Bridge and roadway widening between 400 North and the Potash Road will remain in its current condition until funding is obtained. The funding may not be acquired for many years.

Moab City and Grand County are in the process of designing a 10-foot meandering bicycle and pedestrian path along the east side of US-191 (from approximately 600 North to SR-128) and expect construction in 2007. Though UDOT is coordinating both projects, portions of the proposed path would likely need to be rebuilt as part of the Preferred Alternative to accommodate the widened road. This situation is expected to occur in areas where substantial cuts and/or retaining walls would be required. The exact locations of the reconstructed trail segments would be identified during final design of the roadway and are expected to be within the proposed right-of-way by retaining walls, as necessary. Plans for a potential landscaped median would also be finalized during design in coordination with Moab City and Grand County. A six-foot sidewalk is proposed in developed areas where the meandering path is not provided. In undeveloped urbanized areas, the proposed right-of-way width would accommodate a future sidewalk where the meandering path is not provided.

## **CULTURAL RESOURCES**

### Determination of Eligibility

The Area of Potential Effects (APE) has been intensively inventoried for cultural resources by Montgomery Archaeological Consultants of Moab (Whitfield et al. 2006a,b). Exhibit 1 presents the archaeological site and historic architectural properties locations found on design sheets and Exhibit 2 presents the site locations on the USGS maps. Table 1 presents the archeological site inventory results, and Table 2 presents the historic architectural properties inventory of in-period buildings. The width of the inventory between 400 North and the Colorado River Bridge was generally 200 ft either side of US-191 existing centerline. From the Colorado River to the Potash Road the survey varied between 100-300 ft on the north or east side, to avoid going on National Park Service lands, and on the southwest side varied 100-300 ft as well. The intersecting roads at 400 North, Cermak Drive, N. Mi Vida Drive and 500 West were surveyed for a distance of 500 ft and 100 wide. State Route 128 was surveyed for 1,000 ft and 200 ft wide.

An Intensive Level Survey (ILS) of architectural historic properties was completed by MOAC and is reported separately by Whitfield et al. (2006b). Exhibit 1 presents the architectural properties on design sheets.

Table 1. Archeological sites documented.

State Site Number	Ownership	Site Type	NRHP Eligibility	Finding of Effect	Mitigation
42Gr190	UDOT/Private	Prehistoric Habitation/Historic Spring Development	Eligible C and D	No Effect	--
42Gr2074	NP/UDOT	Rock Shelter	Not Eligible	--	--
42Gr2565.14	UDOT/Private/DOE	Historic U.S. 160	Eligible A & C Non-contributory	No Effect	--
42Gr2565.15		Destroyed bridge/road		No effect	--
42Gr2565.16		Part destroyed/isolated	Non-contributory	No effect	--
42Gr2565.17		Historic U.S. 160	Eligible A	No Effect	--
42Gr2710.15	UDOT/Private	Central Stock Driveway	Eligible A	No Effect	--
42Gr2813 (2 segments)	UDOT/Private	Moab to Thompson Wagon Road	Eligible A & D	No Effect	--
42Gr2923	UDOT/Private	Telephone Line	Eligible A	No Effect	--
42Gr3223	Private	Rock Shelter/Trash Scatter	Eligible D	No Effect	--
42Gr3622	UDOT/Private	Historic Ditch	Not Eligible	--	--
42Gr3623	UDOT/Private	Historic Ditch	Not Eligible	--	--
42Gr3624	UDOT/Private	Foundations	Not Eligible	--	--
42Gr3625	UDOT/Private	Historic Ditch	Not Eligible	--	--
42Gr3626	Private	Lithic Scatter	Eligible D	No Effect	--
42Gr3627	UDOT/Private	Lithic Scatter	Eligible D	Adverse	Data Recovery
42Gr3628	UDOT/Private	Lithic Scatter	Eligible D	No Effect	--
42Gr3629	UDOT/Private	Historic Trash Scatter	Not Eligible	--	--
42Gr3630	UDOT/Private	Historic Sandstone Quarry	Eligible A	No Effect	--
42Gr3631	UDOT/Private	State Route 128	Not Eligible	--	--
42Gr3632	UDOT/Private	Historic Inscription	Eligible A	No Effect	--
42Gr3633	UDOT/Private	Lithic Scatter	Not Eligible	--	--
42Gr3634	UDOT/Private	Prehistoric Petroglyph Panel	Eligible D	No Effect	--

42Gr3635	UDOT/Private	Metal Pipes in Cliff	Not Eligible	--	--
42Gr3667	Private	Bridge Abutment, Historic Inscription, Petroglyphs	Eligible A, C & D	No Effect	--

Table 2. Historic structures documented.

Property Name/ Address	Building Style/ Type	NRHP Eligibility	Finding of Effect	Section 4(f)	Mitigation
1 Rosalie Ct.	Modern Contemporary	Eligible	No Effect	No	--
1001 N. 500 West	Vernacular Cottage	Not Eligible	--	--	--
St. Pius X Catholic Church 122 W. 400 North	Vernacular	Eligible	No Effect	No	--
Arthur Taylor House/Desert Bistro Restaurant 1266 N. Hwy 191	2-Story T-plan Farmhouse	Eligible	No Effect	No	--
Bridge over Colorado River (Structure 0C-285-0)	Multi-span Steel Plate Girder/Concrete Piling with Concrete Deck	Eligible	Adverse	Yes	ILS
2 Rosalie Ct.	Modern Contemporary	Not eligible	--	--	--
3 Rosalie Ct.	Modern Contemporary	Not eligible	--	--	--
Farabee's Jeep Rental 401 N. Main	Vernacular	Eligible	No Effect – temporary construction easement	No	--
4 Rosalie Ct.	Modern Contemporary	Not eligible	--	--	--
Commercial building 415 N. Main	Vernacular	Not eligible	--	--	--
Cottage Inn 488 N. Main	Vernacular	Not eligible	--	--	--
Adventure Inn 512 N. Main	Vernacular	Not eligible	--	--	--
543 N. Main	Vernacular	Not eligible	--	--	--
La Hacienda Restaurant/Inca Inn Motel 570 N. Main	Vernacular	Not eligible	--	--	--

Splore 610 N. Cermak	Modern Contemporary	Not eligible	--	--	--
Elks Lodge 611 N. Cermak	Vernacular	Eligible	No Effect	No	--
646 N. MiVida	Modern Contemporary	Eligible	No Effect	No	--
654 N. MiVida	Modern Contemporary	Eligible	No Effect	No	--
Sunset Grill 900 N. Hwy 191	Modern Contemporary	Eligible	No Effect – temporary construction easement	No	--
999 N. 500 West	Vernacular	Eligible	No effect	No	--

All documented cultural resource sites are evaluated for National Register of Historic Places (NRHP) eligibility in accordance with 36 CFR 800.4(a-d) (see Tables 1 and 2). All of the inventoried historic properties reach only the local level of significance. The total number of archaeological sites or segments of sites identified within the current APE is 26. Of these, 17 are historic sites, seven are prehistoric only, and two are multi-component historic/prehistoric. Seventeen archeological sites/segments are determined eligible for the NRHP (Table 1).

The total number of buildings documented is 19, and the existing Colorado River Bridge built in 1950 is recorded as well. Buildings and structures that predate 1960 are included in the inventory and evaluated, providing a buffer for properties that may become older than 50 yrs in the preconstruction phase of the project. The structures date from between 1896 to 1960. Of these, the Arthur Taylor house is listed on the National Register of Historic Places, and nine additional properties are found eligible for the Register, including the Colorado River Bridge. According to federal regulation, properties younger than 50 years of age may be evaluated for National Register eligibility under special circumstances; none of these circumstances occurs on this project.

#### Finding of Effect

Only historic properties (i.e. NRHP-eligible) are evaluated for effects. Thus, those sites that have been determined not eligible do not receive consideration of avoidance of effect by the project. Tables 1-2 present the findings of effect and Exhibit 3 shows the relationship of design to NRHP eligible sites. The only archeological site that cannot be avoided is 42GR3627, a prehistoric lithic scatter, hence it is adversely affected by the project. At site 42WS3628, the project requires extending two feet into the northern site boundary to provide enough room for construction. As stated by MOAC, the site has recently been bladed and shallow fill has been laid on most of its surface. When originally recorded it consisted of only 12 flakes and a biface fragment. Since the area is largely disturbed and the contractor only needs to drive over the two-foot area encroaching on the original site boundary, the UDOT has made a finding of no effect for this site. The only architectural property adversely affected is the Colorado River Bridge.

Every effort has been made to avoid impacting the eligible sites in the project APE through minor alignment adjustments, narrowing medians, and/or pulling in slopes and cuts. In those cases where avoidance is not possible, it is because safety for the traveling public would be unacceptably compromised, or moving the roadway would impact other or even a greater number of historic properties. Please see the Section 4(f) part below for the detailed avoidance measures considered.

## **SECTION 4(f) CONSIDERATIONS**

This section has been included to facilitate USHPO and Council consultation concerning the applicability of Section 4(f) of the Department of Transportation Act of 1966, as amended. Consultation with the USHPO and Council regarding Section 4(f) is required by 23 CFR 771.135 (52 Federal Register 167).

Title 23 of the Code of Federal Regulations states that "The Administration may not approve the use of land from...any significant historic site unless a determination is made that:

- (i) There is no feasible and prudent alternative to the use of land from the property; and
- (ii) The action includes all possible planning to minimize harm to the property resulting from such use.

Paragraph (g)(2) of this regulation states that "Section 4(f) does not apply to archeological sites where the Administration, after consultation with the SHPO and the ACHP, determines that the archeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place." Thus, eligible sites that are "important for preservation in place" are those that are eligible under criteria other than "D", or information potential alone. New regulations have recently been established under 23 CFR 138, as amended, and Section 6009 of the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) have streamlined Section 4(f) under certain conditions. When the finding of effect under Section 106 for a Section 4(f) property is no effect or no adverse effect may be considered a *de minimis* impact. Detailed avoidance analyses are no longer required for these findings.

### Section 4(f) Resources

The archeological and/or segments of sites within the project area that Section 4(f) may apply to are listed in Table 3 and illustrated in Exhibits 1 and 3. All of these 12 sites/segments are important for preservation in place, as they are NRHP eligible under criteria other than D, and/or have qualities that embody the site with values beyond its information potential alone. The ten historic architectural properties that are important for preservation in place are listed in Table 4 and illustrated on Exhibits 1 and 3. The boundaries of these 10 historic sites correspond to their current legal property definitions, as these capture their historic boundaries as well.

### Impacts to Section 4(f) Resources



The only site that qualifies for Section 4(f) protection that is adversely affected through direct impacts is the Colorado River Bridge. Of the archeological Section 4(f) properties, eight are completely avoided by the project by implementing avoidance alternatives as iterated below.

Table 3. Section 4(f) archeological sites.

SITE NUMBER	TYPE	AVOIDANCE MEASURE	SECTION 4(F) USE
42GR190	Prehistoric Habitation/ Historic Spring	Out of APE	No
42GR2565.14	Historic US-160	Use 2:1 slope, fence 1 ft from North site boundary	No
42GR2565.15-17	Historic US-160	No avoidance necessary or out of APE	No
42GR2710.15	Central Stock Driveway	25 ft from construction	No
42GR2813 (2 segments)	Moab to Thompson Wagon Road	Sht 5: use retaining wall Sht 8: 37 ft from Right of way with retaining wall	No
42GR2923	Telephone Line	Out of APE	No
42GR3632	Prehistoric petroglyph	Out of APE	No
42GR3667	Bridge abutment, Historic Inscription Prehistoric Petroglyphs	Out of APE	No
42Gr3634	Prehistoric Petroglyph Panel	Out of APE	No

Table 4. Historic architectural Section 4(f) properties.

Property Name/Address	Avoidance Measure	
1 Rosalie Court	Out of ROW	No
St Pius X Catholic Church	Out of ROW	No
Arthur Taylor House	Match existing driveway, remove modern wall in UDOT Right of way, reconstruct modern path in existing location, retaining wall near spring	No
Colorado River Bridge	None possible	Yes
Farabees Jeep Rental	Temporary construction easement	No
Elks Lodge	Out of ROW	No
646 N. Mi Vida	Out of ROW	No

654 N. Mi Vida	Out of ROW	No
Mi Vida Estate/Sunset Grill	Temporary Construction Easement	No
999 North 500 West	Out of ROW	No

Of the architectural Section 4(f) properties, seven are completely avoided. The Farabee's Jeep property will have a temporary construction easement to 12 ft of its frontage along US-191 (Table 4 and Exhibit 3). At the Mi Vida estate (now the Sunset Grill) at 900 North, a temporary construction easement will be needed to reconstruct the driveway access to the property off US-191. These temporary easements have no effect on these two historic properties.

#### Avoidance Alternatives Considered

Various alternatives have been considered to avoid impacting the Colorado River Bridge section 4(f) property used by the project. These include: Do Nothing, build on new location without using the old bridge at some distant alternate location or to either side of the bridge, incorporation as a one-way couplet with a new structure, and rehabilitate the bridge without affecting its historic qualities. The Do Nothing alternative is not prudent and feasible since the safety and geometric deficiencies of the bridge cannot be addressed through normal maintenance. The bridge is too narrow, cannot support modern loads, has parapets that no longer meet current crash safety criteria, the abutments are scouring and the concrete is seriously degraded. Relocating the crossing at another point over the Colorado River some distance from the current crossing is not feasible and prudent. The bridge is already at the most logical crossing dictated by topography and the historical development of towns and roads in the region. This area is dissected by canyons and has great variation in surface elevation. The bridge is on major route US-191 and is the gateway into Moab. If the current crossing were closed, an approximately 110-mile detour along Interstate 70 and SR-128 would be required.

Relocation to either side of the existing bridge is also not prudent and feasible. Arches National Park borders US-191 on the north and east, and there are steep cliffs along the highway all the way through the project until in the town of Moab proper. Also on the north side are Section 4(f) properties 42GR190, 42GR2656.17, 42GR2923, 42GR3632, 42GR3634, and 42GR3667. Relocating to the west or south on new alignment is also not feasible, as the Matheson Wetland Preserve borders the highway. Any significant alignment departure would require relocating the Courthouse Wash Bridge as well, and potentially impact the Department of Energy hazardous waste site at the Atlas Mine. The added costs for new roadway and two new bridges would be significant, and it would expand adverse effects on the floodplain and riparian zone of the Colorado River. Incorporation as a one couplet also is not feasible, since the deteriorated condition of the concrete is so advanced, and the abutments and piers are being scoured, and it would still require construction of a new on-way bridge to the north or south of the existing one to provide adequate capacity. Finally, rehabilitation without affecting the historic qualities of the bridge is not possible. The insufficient width, lack of shoulder, concrete deterioration, and substandard parapets cannot be addressed without affecting the historic design, materials, and workmanship that make the bridge eligible for the NRHP. In addition, because both of the steel girders supporting the superstructure must be intact to keep the bridge up, the bridge is fracture critical. Only two girders means that the bridge also has only the elements of support needed for stability, and thus has no redundancy in case of a crash that destroys a girder.

## **Preservation Alternatives**

The historic Colorado River Bridge cannot be preserved in place while maintaining its historic qualities. Other preservation alternatives often considered include marketing the bridge for relocation, retrieval of selected components, dismantling for storage, and documentation in advance of demolition. The bridge is a multi-plate steel Girder with concrete pilings and deck. The bridge is 1,000 ft long and has eight spans. The spans vary in length from 113 ft to about 127 ft and are quite heavy. The bridge cannot be relocated or dismantled for alternative use without affecting its historic qualities. The UDOT proposes the bridge receive detailed Intensive Level Survey documentation in advance of demolition.

### **Measures to Minimize Harm**

The measures proposed to minimize harm will be stipulated in the draft Memorandum of Agreement between the FHWA, the SHPO and the consulting parties. The document includes archival documentation to state standards for adversely affected Colorado River Bridge. Temporary fencing will be placed on unaffected site portions to prevent accidental encroachment during construction. Standard specifications dealing with discoveries of historic and archeological resources during construction will provide notification to consulting parties and development of treatment plans.

### **Coordination**

The National Register of Historic Places eligibility and the Draft Section 4(f) Evaluation have been developed in coordination with the FHWA, UDOT, the SHPO, the BLM, NPS, DOE, DWR, Paiute Indian Tribe of Utah, Hopi Tribe, and the Utah Historic Trails Consortium. The final Section 4(f) Evaluation will be coordinated with the federal Advisory Council on Historic Preservation as well.

### **Conclusion: Section 4(f) Determination**

Because a Section 4(f) site is affected, the site is “used” by the project, Section 4(f) applies. A Programmatic Section 4(f) Evaluation for the Use of Historic Bridges will be completed and included in the Draft Environmental Assessment.

## **MITIGATION**

The FHWA will invite the USHPO, UDOT and consulting parties to participate in development of a Memorandum of Agreement (MOA.) (Exhibit 6) that stipulates archeological data recovery at site 42GR3627, and state level archival documentation of the Colorado River Bridge. In accordance with 36 CFR 800.5-6, FHWA will notify the Advisory Council on Historic Preservation of the finding of an adverse effect, and they will decide if they will participate in the execution of the MOA. UDOT will draft a preliminary MOA for review by the consulting parties.

## **CONSULTING PARTIES**

Potential tribal government consulting parties that have been contacted by

FHWA/UDOT both in 2004 and 2005 include: the White Mesa Ute Council, the Ute Mountain Ute, Paiute Indian Tribe of Utah, the Southern Ute Tribe, the Uintah Ouray Ute, and the Hopi Tribe (see Exhibit 4). The Southern Ute Tribe declined to participate (Exhibit 4). The Hopi and Paiute Indian Tribe of Utah requested consulting party status (Exhibit 4). The inventory report and this document are being provided to these latter two tribes.

Other potential consulting parties were contacted by UDOT on December 7, 2005 include the Grand County Historic Preservation Commission and Certified Local Government, the Moab Chapter of the Utah Statewide Archaeological Society, and the Utah Historic Trails Consortium. The Trails Consortium replied, requesting consulting party status (Exhibit 5). The PITU were contacted via e-mail on July 28, 2006 regarding further participation in this project. They replied that it out of the area of Tribal interest and declined consultation rights (Exhibit 4). Agencies that have jurisdiction within the area of potential effect as listed in the introduction are also participating as consulting parties in the Section 106 process. All of these parties are being provided this draft document and inventory reports.

### **PRESERVATION OF UNAFFECTED SITE PORTIONS**

To ensure the contractor does not encroach into any site areas not specified for construction use, the UDOT will include a special provision in the construction contract that explicitly identifies the areas needing protection by roadway stationing and erecting temporary fencing as a barrier to unaffected site portions. Standard Specifications governing the contract require that any damage incurred by the contractor will be mitigated at contractor expense.

### **PLANNING FOR DISCOVERY**

Although the project APE has been 100% inventoried, it is always possible that archeological or historical resources could be discovered during construction. UDOT is providing for the protection, evaluation, and treatment of any historic property discovered prior to or during construction. UDOT Standard CSI 01355 Environmental Protection Part 1.9 - Discovery of Historic, Archeological, and Paleontological Resources applies to this project (Exhibit 6), and stipulates instructions to the contractor for the protection of any archaeological, historical, or paleontological resource discovered in the course of construction.

Should a discovery occur, UDOT will consult with the SHPO and relevant Consulting Parties toward developing and implementing an appropriate treatment plan prior to resuming construction.

### **CHANGES DURING CONSTRUCTION**

Quite often, the construction contractor will need locations to either acquire or stockpile material within the construction project limits and other minor adjustments. UDOT proposes that the UDOT Archeologist be able to approve without additional consultation locations that avoid all eligible historic properties within the Colorado River

Bridge Replacement right of way in the project limits during construction

### REFERENCES CITED

Whitfield, Angela, R. Stash, and A. Hamblin

2006a Draft Cultural and Fossil Resource Inventory of Utah Department of Transportation's Colorado River Bridge Replacement Project, Grand County, Utah. Prepared by Montgomery Archaeological Consultants, Moab. On file at Utah Department of Transportation Region 4, 1345 South 350 West, Richfield Utah.

'Whitfield, Angela, R. Stash, and D. Shank

2006b Historic Standing Structure Inventory for the Utah Department of Transportation's Colorado River Bridge Replacement Project, Grand County, Utah. Prepared by Montgomery Archaeological Consultants, Moab. On file at Utah Department of Transportation Region 4, 1345 South 350 West, Richfield Utah.



